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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,735

01/26/2005

Francesco Coppi

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06/05/2006

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EXAMINER

ALEMU, EPHREM

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/523,735

Applicant(s)

COPPI ET AL.

Examiner

Ephrem Alemu

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-26-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “the multichannel transceiving apparatus including several transceivers connected to a corresponding antenna” must be shown or the feature canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

(i) A specific reference to the national stage of the international application prior and the claimed foreign priority is not included in the first sentences of the specification of this application. The first sentence of the specification should be amended to include the specific reference in compliance with 37 CFR 1.78(a). Appropriate correction is required.

(ii) The specification recites, "...as described in preamble to claim 1 (11)" in page 2, lines 27 and 29 is not a proper description of the claimed invention. Applicant is advised to make correction that one of ordinary skill in the art could understand the claimed invention by the teaching of the specification because the form of the claims changes or modified throughout the prosecution of the case. In other word the specification should teach the claimed invention rather than vise versa. No new matter should be added. Appropriate correction is required.

(iii) The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims are rejected under 35 U.S.C. 102(b) as being anticipated by Song C T P et al. titled "Triple band planar inverted F antenna for hand held devices" submitted by applicants.

Re claims 1, 4 and 6, Song C T P discloses an antenna system for transceiving signals on two or more frequency bands, in which two or more microstrip antennas (i.e., plate 1, plate 2, plate 3) are arranged on a single dielectric substrate, provided with a ground plane (3) (Fig. 1; paragraphs 1, 4 and 5), wherein each of the antennas (i.e., antenna 1, antenna 2 both of PIFA types) is capable of operating simultaneously on a lower frequency band and on a higher frequency band, is provided with a single feed connection (Fig. 1; paragraph 6) and is positioned to ensure decoupling with the other antennas better than -20 dB in the same frequency band (Fig. 1; Table 1; page 1, paragraph 7- page 2, paragraph 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song C T P et al. titled "Triple band planar inverted F antenna for hand held devices" submitted by applicants.

Re claim 2, Song C T P discloses all the claimed limitation as applied to claim one above except the distance between the antennas (i.e., antenna 1, antenna 2 both of PIFA types) being as claimed in claim 2.

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However, it is within a skill of an artisan to select the distance between the antennas arranged on the substrate for the purpose of providing sufficient isolation between the antennas (i.e., antenna 1, antenna 2 both of PIFA types).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the distance between the antennas as claimed in claim 2 for the purpose of providing sufficient isolation between the antennas (i.e., antenna 1, antenna 2 both of PIFA types).

Re claims 3, given the antennas (i.e., antenna 1, antenna 2 both of PIFA types) of Song C T P arranging the antennas (i.e., antenna 1, antenna 2 both of PIFA types) to mirror the symmetry axes of the substrate would have been an obvious design choice.

Re claim 5, 7 and 8, although Song C T P does not disclose the dimension of the dielectric substrate and the dielectric substrate the dimensions of each antenna and the thickness of the short-circuit, it would have been well in the skill of an artisan to provide the dielectric substrate and the dielectric substrate as claimed since it is well known that the antenna performance is influenced by the total volume of the dielectric substrate and the dielectric constant of the material from which the dielectric substrate being formed. Furthermore, it is known that antennas size and dimension can be scaled for different frequencies and different applications. In addition providing short-circuit having a thickness as claimed in claim 8 would have been obvious based on the total volume of the dielectric substrate and the dielectric constant of the material from which the dielectric substrate being formed.

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Re claim 9, given Song C T P antennas (i.e., antenna 1, antenna 2 both of PIFA types) each antenna being fed at a selected position as claimed in claim 9 would have been obvious for the purpose of tuning the antenna.

Re claim 10, given Song C T P antennas (i.e., antenna 1, antenna 2 both of PIFA types) configuring the upper frequency band to have a wavelength at the resonating frequency, which is approximately half of that of the lower frequency would have been obvious.

Re claims 11 and 12, Song C T P discloses antennas (i.e., antenna 1, antenna 2 both of PIFA types) for handheld devices. Therefore, the hand held device having several transmitters capable of operating on a different frequency in the GSM 900 and GSM1800 bands would have been obvious.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koskiniemi et al. (US 6,882,317); Scott et al. (US 6,738,023); Kadambi et al. (US 6,417,809); Kozakai et al. (US 6,295,030); Korisch (US 5,926,139); also teach similar inventive subject matter.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EA
5-17-06


TUYET VO
PRIMARY EXAMINER